

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Serial No. : 10/828,893 Confirmation No. 5851
Applicants : Ronald J. Yaeger, et al.
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Customer No. : 34,725

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Rule 1.132 Declaration of Galen Hartman

I, Galen W. Hartman, being hereby warned that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. §1001, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon, declares the following:

1. I am a named co-inventor of U.S. Patent Application Serial Number 10/828,893 filed on April 20, 2004.
2. All statements contained herein are made of my own knowledge and are true and that all statements made on information and belief are believed to be true.
3. I received a Bachelor of Science Degree in chemistry and physics from Southeastern State University, and two years of graduate work in organic chemistry and chemical engineering
4. I have over thirty years of experience in polymer formulations, polymer design and syntheses, polymer compositional analyses, polymer structural analyses, thermoplasticity, thermosetting, viscoelasticity, glass/viscoelasticity phase transition characterization and testing, physical and chemical properties, amorphous and crystallinity determinations, solubility and solubility prediction utilizing 3 dimensional theory.
5. I am the President and Laboratory Director of Chemical Analysis, Inc., a consulting firm specializing in activities related to polymers, where I have been employed since 1974.

6. I am presently or previously been active in the following professional societies and committees: American Association of Advancement of Science (AAAS), American Association of State Highway and Transportation Officials (AASHTO), American Chemical Society (ACS), American Council of Independent Laboratories (ACIL), American Institute of Chemical Engineering (AIChE), American Society for Testing and Materials (ASTM), International Conference of Building Officials (ICBO), International Council of Independent Laboratories (ICIL), National Association of Corrosion Engineering (NACE), Society of Plastics Engineering (SPE), and Uniform Building Code Officials (UBC).
7. I am providing the present Declaration to demonstrate that United States Patent Number 3,798,057 does not disclose an amorphous cationic polymer with an overall cationic charge but in contrast discloses a water soluble resin having an additive of dispersed chlorinated polymeric particles.
8. I am providing the present Declaration to demonstrate that United States Patent Number 3,798,057 does not disclose an amorphous cationic polymer with an overall cationic charge but in contrast discloses a water soluble resin having an additive of dispersed chlorinated particles.
9. I have reviewed United States Patent Number 3,798,057, the related United States Patent Number 3,862,280 and the Office Action mailed November 19, 2008.
10. United States Patent Number 3,798,057 discloses a water soluble resin that is the impregnating resin with a dispersed chlorinated polymeric additive. United States Patent Number 3,798,057 uses polyepoxy resin to form a thermoset polymer.
11. United States Patent Number 3,798,057 discloses that the chlorinated additive is an insoluble additive added to the resin. Specifically in column 3, line 21 to 24: "...comprise a chlorinated polymeric hydrocarbon, specifically a chlorinated polypropylene (hereinafter "chlorinated C3 polymeric hydrocarbon") or chlorinated rubber." This polymer is insoluble in solvents and is incorporated as a discrete particulate into the epoxy resin.
12. United States Patent Number 3,798,057 discloses epoxy resins which yield a final product that is water soluble and water dispersible mixture, if they are not chemically cured with a chemical curing compound, specifically compositions in column 3, line 64 to 68: "...polyepoxy compounds identified as glycidyl ethers of polyphenols, specifically diglycidyl or polyglycidyl ethers of bisphenols such as bisphenol A and bisphenol F".
13. United States Patent Number 3,798,057 discloses all components in the composition which does not include any chemical curing compounds to chemically react with the epoxy resin that would be required for thermosetting chemically curing of the epoxy resin; therefore, the resultant impregnate would be a final product that is water soluble and water dispersible mixture, see column 3, line 21 to column 4, line 23.

14. United States Patent Number 3,798,057 discloses a composition in claim 1 that will not crosslink or thermoset and will yield a final product that is water soluble and is a water dispersible mixture. As disclosed in column 4, line 56 to column 5, line 3, all components in a mixture of the composition in claim 1 are identified and include chlorinated polymeric C3 (polypropylene) and C5 (isoprene rubber) hydrocarbon both insoluble in organic solvents and non-reactive with epoxy resin; chlorinated terphenyl or chlorinated paraffin resins which are soluble in organic solvents (non-reactive with epoxy resin); and a polyglycidylether of a polyphenol (epoxy resin).
15. United States Patent Number 3,798,057 discloses a composition in claim 2 that will yield a water soluble and water dispersible resin composition. As disclosed in column 5, line 4 to column 5, line 8, all components in a mixture of the composition in claim 2 that are added to the composition in claim 1 will not provide any crosslinking or thermosetting chemical reactivity to allow polymerization of the epoxy resin.
16. United States Patent Number 3,798,057 discloses in claims 3-6 the addition of other components to the composition; however, those additional components that will yield a final product that is water soluble and water dispersible mixture.
17. I am aware that United States Patent Number 3,798,057 discloses epoxy resins that will not chemically cure with any identified components in United States Patent Number 3,798,057.
18. I am aware that United States Patent Number 3,798,057 discloses a resultant product that consist of epoxy resins as reactive components that will not be reacted or thermosettingly cured.
19. I am aware that United States Patent Number 3,798,057 discloses a resultant product that is water soluble and water dispersible.
20. I am aware that the above referenced application discloses a water insoluble thermoplastic composition that has different solubility parameters ranges than the composition in United States Patent Number 3,798,057. Specifically the solubility parameters ranges are listed below and reproduced graphically in the plot attached hereto as exhibit A:

Solubility Parameters	Instant Application	3,798,057 Patent
δ_n	6.5 to 8.5	6.0 to 9.0
Δp	0.0 to 8.5	2.5 to 7.0
δ_h	0.0 to 7.0	12.0 to 24.0

21. I am aware that the above sets of solubility parameters allow the distinction of the compositions of the above referenced application and United States Patent Number 3,798,057.

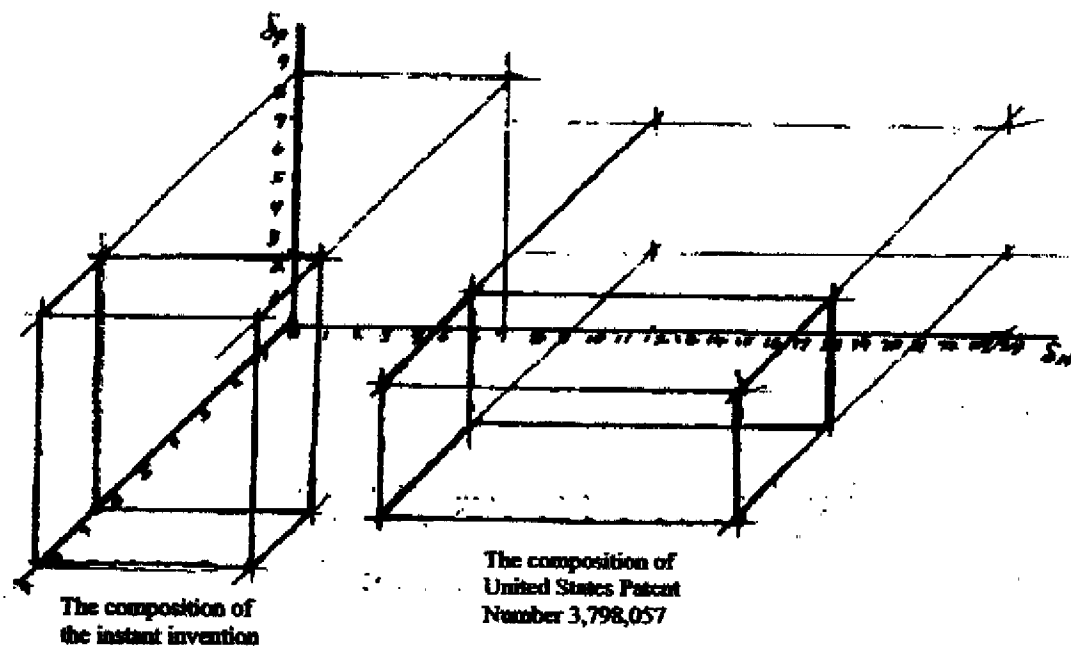
22. I am aware that the above solubility parameters of the above referenced application occupy significantly different 3 dimensional solubility spaces and distinctively stand apart from the solubility parameters of United States Patent Number 3,798,057.
23. I am aware that the above referenced application discloses a water insoluble thermoplastic composition that is different from the composition in United States Patent Number 3,798,057.
24. I assert that the composition disclosed in United States Patent Number 3,798,057 is a water soluble thermoset resin having an additive of dispersed chlorinated particles and is therefore different from the water insoluble amorphous cationic thermoplastic polymer with an overall cationic charge.

Signature: Galen W. Hartman

Name: Mr. Galen W. Hartman

Date: 3-19-20

EXHIBIT A



3-D plot of the Solubility Parameters